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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/439,217	11/12/1999	CHRISTOPHER BURKE BARROSO	2-11-36	1398

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DOCKET ADMINISTRATOR
LUCENT TECHNOLOGIES INC
600 MOUNTAIN AVE
P O BOX 636 RM 3C 512
MURRAY HILL, NJ 079740636

EXAMINER

CONTEE, JOY KIMBERLY

ART UNIT	PAPER NUMBER
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2681

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DATE MAILED: 03/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/439,217

Applicant(s)

Barroso et al.

Examiner

Joy Contee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Mar 10, 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8, and 10 is/are rejected.
- 7) ☒ Claim(s) 7, 9, 11, and 12 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Sep 3, 2002 is/are a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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DETAILED ACTION

Request for Continued Examination

1. The request filed on March 10, 2003 for a Request for Continued Examination (RCE) under 37 CFR 1.114 based on parent Application No. 09/439,217 is acceptable and a RCE has been established. An action on the RCE follows.

Response to Arguments

2. Applicant's arguments with respect to claims 1-6,8,10 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1,2,4-5 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Malcolm et al. ("Malcolm"), U.S. Patent No. 5,790,939, previously cited, not used in rejection.

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Regarding claim 1, Malcolm discloses a method of time calibration comprising the steps of:

determining a calibration time using system timing information and embedded satellite timing information (col. 7, lines 66-67 to col. 8, line 5 and col. 10, lines 26-30); and

transmitting to the base station (i.e., reads on gateway earth station (26)) the calibration time and a reference frame identifier (i.e., frame reference), wherein the reference frame identifier specifies a frame boundary (i.e., reads on unique word defining start of frame) of a reference system pulse (i.e., system control subsystem (SCS)) corresponding to the system timing information (col. 10, lines 26-51).

Regarding claim 2, Malcolm further discloses a method of time calibration comprising the steps of:

receiving at a receiver a message at a base station (i.e., reads on gateway earth station (26)) having a calibration time and a reference frame identifier (i.e., frame reference), wherein the message is received over one or more frames, the reference frame identifier specifying a frame boundary (i.e., reads on unique word defining start of frame) of a reference system pulse, the calibration time being determined using satellite timing information (i.e., payload response channel (PRC)) and the reference system pulse (i.e., SCS) (col. 10, lines 20-51); and

synchronizing the receiver (i.e., of the gateway earth station (26)) to satellite timing using the calibration time, the reference frame identifier and a reference point in a frame specified by the reference frame identifier (col. 10, lines 41-51).

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Regarding claim 4, Malcolm discloses the method of claim 1, wherein the step of determining the calibration time comprises the steps of:

detecting at least one satellite signal (PRC) (col. 10, lines 26-30); and
determining the embedded satellite timing using the detected at least one satellite signal (col. 10, lines 26-51).

Regarding claim 5, Malcolm discloses the method of claim 4, comprising the additional step of:

receiving Doppler frequency information associated with the at least one satellite signal being detected prior to the step of detecting the at least one satellite signal (col. 8, lines 54-57).

Regarding claim 8, Malcolm discloses the method of claim 1, comprising the additional step of: transmitting an estimating frequency or code phase search range (col. 8, lines 17-20).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 3 and 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Malcolm, in view of Noguchi, U.S. Patent No. 4,607,257, previously used in final rejection.

Regarding claim 3, Malcolm discloses the limitations of claim 1, comprising the additional step of. Malcolm does not specifically disclose: receiving a request to perform timing calibration prior to the step of determine the calibration time.

In a similar field of endeavor, Noguchi discloses receiving a request to perform timing calibration prior to the step of determine the calibration time. (col. 7, lines 67-68 to col. 8, line 2).

At the time of the invention it would have been obvious to one of ordinary skill in the art to have modified Malcolm to include a time calibration command sent from the earth station for the purpose of letting the satellite know when it is time for synchronization.

Regarding claim 6, Malcolm discloses the method of claim 4. Malcolm does not explicitly disclose: receiving aiding information associated with the at least one satellite signal being detected prior to the step of detecting the at least one satellite signal.

In a similar field of endeavor, Noguchi discloses receiving aiding information associated with the at least one satellite signal being detected prior to the step of detecting the at least one satellite signal (col. 3, lines 12-25).

At the time of the invention it would have been obvious to one of ordinary skill in the art to have modified Malcolm to include aiding information prior to detecting at least one satellite

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signal (PRC) for the purpose of providing various operations, including data collections and attitude control, communicated between the satellite and the earth station.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Malcolm, in view of, Abraham et al., (hereafter "Abraham") U.S. Patent NO. 5,510,797.

Regarding claim 10, Malcolm discloses the limitation of claim 2. Noguchi fails to explicitly disclose, wherein the step of receiving at the receiver the message having the calibration time and the reference frame identifier comprises: time stamping the message to indicate a time at which the message was received by the receiver.

In a similar field of endeavor, Abraham is evidence of a user time stamping a calibrated signal such that the recipient will know if the message is current or old (col. 6, lines 53-67).

At the time of the invention it would have been obvious to one of ordinary skill in the art to have modified Malcolm to include a time stamp on the calibration message for the purpose of identifying the relevancy of the calibration message, i.e., current or old..

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Allowable Subject Matter

8. Claims 7, 9, 11 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: Prior art fails to disclose in combination with the calibration method of the independent claims receiving a holding time for indicating when the aiding information expires; transmitting a time for indicating a time duration wherein the estimated frequency of code phase search range is valid; and determining a second calibration.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Averbuch, U.S. Patent No. 5,245,634, discloses a base-site synchronization in a communication system.

Dean, U.S. Patent No. 6,201,802, discloses a method and apparatus for analyzing base station timing.

Vannucci, U.S. Patent No. 6,118,977, discloses a telecommunications assisted satellite positioning system.

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joy K. Contee whose telephone number is (703) 308-0149. The Examiner can normally be reached between 5:30 a.m. and 2:00 p.m., Monday- Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost, can be reached on (703)305-4778.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Customer Service whose telephone number is (703)306-0377

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231


or faxed to:

(703) 872-9314 (for formal communications intended for entry)

Or:

(703) 872-9314, (for informal or draft communications, please label
"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).


Joy K. Contee

March 22, 2003


NAY MAUNG
PRIMARY EXAMINER